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# Operation of Manual and Computer Data Retrieved in Veterinary Clinical Sciences

Connie K. Heckert, M.R.L.\*

## Introduction

The Veterinary Medical Data Program (V.M.D.P.) is a project sponsored and partially financed by the National Cancer Institute, presently located in Bethesda, Maryland. It is based on the *Standard Nomenclature of Veterinary Diseases and Operations* and was initially established at Michigan State University in February 1964, and has increased to 12 veterinary colleges in the United States and Canada. Iowa State University became a participant in the program in October 1965.

The purpose of V.M.D.P. is to provide medical data that will be consistent in quality and content; and available to individuals and institutions for teaching, research and various other projects.

From this information, retrievals of data can be provided for individual and institutional use. Retrievals may also be obtained from other participating schools by requesting permission from the school and forwarding this approval to the National Cancer Institute.

Prior to August 1971, data had been available exclusively on printout forms and had been manually retrieved. With the establishment of an Iowa State University oncampus computer retrieval program, data are more readily available for retrieval requests by veterinary students and staff in their work with research, teaching, publication and student library seminar coursework.

This article attempts to acquaint both veterinary students and staff with the operation of clinical data retrieval and the newly established I.S.U. Clinic Computer Retrieval Program.

## Materials and Procedures

The clinic case record is the basis of this computer retrieval operation. It covers the period of time the patient enters the hospital until the patient is discharged. The patient's history, symptoms, medications, diagnostic procedures, daily observations, diagnosis and operative procedures are recorded on the case record.

Upon discharge of the patient, information is abstracted according to the clinic accession number, patient species, breed, sex, age, weight, the total number of hospital days in the clinic, the discharge status, discharge number, diagnosis(es), operative procedure(s), hospital complications and diagnostic procedures. Case records are reviewed for completeness, and the proper code is assigned to each diagnosis and operation from the *Standard Nomenclature of Veterinary Diseases and Operations*. Case record and patient data are abstracted, and one abstract is submitted per discharge to the data processing center at the National Cancer Institute, National Institutes of Health, U.S. Public Health Service in Bethesda, Maryland.

Abstracted data are processed simultaneously for all the schools and returned two to three weeks later in the form of re-

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trieval printouts and keypunched cards. The punched cards are used to transfer information to computer tape for use in an IBM computer.

### *Retrieval*

The Clinical Data Retrieval program specifies that a separate run may be made for each calendar year, or a series of years that the program has been in operation (I.S.U. has data commencing from October 1965). Information may also be requested on a monthly basis, i.e. one to twelve months within a calendar year.

After a retrieval request has been established, an IBM Key punch Machine is used to type the requested information on a computer card for insertion in the programmed deck of cards. The programmed deck is then submitted to the IBM 360 Computer for retrieval of the requested data.

### *Example Retrieval Request: Abomasal Ulcers*

One example of a retrieval request may be that of the request for all clinic case records with the diagnosis of abomasal ulcers in the bovine species. The person may request to review all the cases of the disease for the past five years.

To enact the request, a Data Retrieval Request Form is completed with the applicable information. A Computer Retrieval Request Form is then used to record the name of the person requesting retrieval, date requested, diagnosis requested and any special instructions needed for key-punching guidelines.

Typed computer cards are inserted in the original and duplicate computer program card decks (i.e. in this case, one deck for each year the diagnosis is requested). The decks are then submitted for the computer operation.

Upon completion of the data retrieval search, twelve cases of abomasal ulcers were reported. Using the clinic case record accession numbers, these twelve cases were retracted from the hospital files for the person to study and review.

### *Discussion*

The prescribed method of data retrieval offers a time-saving procedure of regaining clinic case records for use in research, teaching, or publication purposes to staff and students. (Authorized persons of other departments are also permitted to use this service.)

The value of this retrieval depends largely on the information relayed from the clinic case record. It is also of importance that coding procedures are accurate to prevent the misplacement of retrieval information within the system.

In some instances, manual retrieval has advantages over that of the computerized method of retrieval. Manual retrieval is much faster for obtaining a specific case record. The time element for manual retrieval results also depends on the amount of given information about a case, and the length of time (i.e. months, years) that must be searched. Manual retrieval is also more beneficial in the instance of a single request, as opposed to four or five requests for case records, at a given time.

Participating colleges in the Veterinary Medical Data Program will release datum pertaining to their hospitals on request.

Iowa State University has cooperated with individuals from the following institutions requesting data: Auburn University, Auburn, Alabama; University of California, Davis, California; Institute of Veterinary Science, Palo Alto, California; University of Saskatchewan, Saskatoon, Saskatchewan, CANADA; Michigan State University, East Lansing, Michigan; the University of Iowa, Iowa City, Iowa; and National Animal Disease Laboratory, Ames, Iowa.

### *Summary*

Computerized data retrieval of clinic case records is advantageous for multiple retrievals or for a retrieval with a high incidence and/or covering a lengthy period of time. It excels as a supplementary form of retrieval and will prove more valuable as data increases through continued participation in the Veterinary Medical Data

Program.

Manual retrieval is the faster and more efficient method of retrieval; when the request is specific, its identifying information is known (e.g. owner, specie, age, sex, diagnosis) and incidence of the diagnosis is low.

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## The Shining Missionaries of Africa

Ole Stalheim, D.V.M.\*

As the big jet streaked into Ethiopia from the Sudan, the sun rose suddenly below the port wing revealing a phalanx of gaunt, jagged peaks clawing upward thousands of feet at us. The western slopes were still dark, but the bare, deeply eroded eastern slopes glowed in the sunlight. With majestic ease, the plane crossed row after row of peaks separated by dry rivers or narrow brown valleys, until approaching Asmara; the terrain moderated. Rectangular stone houses squatted on brownish hillsides, each with a tiny courtyard enclosed by a rock wall. Round, thatched-roofed huts had likewise been set in brush enclosures. Soon we circled a brownish city on a brownish plain, and glided to a stop.

\* Dr. Stalheim is an employee of the U.S.D.A. in Ames, Iowa.

Beside the runway, a flock of fat-tailed sheep moved quickly from one bit of vegetation to another. They were tended by two boys carrying heavy sticks and wearing ragged shirts which barely covered the vital points. On the other side of the runway, a man strode toward the city on sandals cut from old tires, holding a walking stick across both shoulders. He wore dirty, whitish breeches. His shemma, draped toga-fashion over his shoulders, was pulled tight around his head and neck for protection against the dust.

ETHIOPIA! Empire of the King of Kings! With three-thousand-year-old cities where once ruled the Queen of Sheba; with twenty million people living much like they did at the time of Christ; with an Orthodox Church which has preserved its